

Development of an Educational Laboratory Course: Risk Evaluations and Environmental Assessment for Nuclear Environmental Protection

Executive Summary

The objective of the proposed project is to develop a curriculum and multi-media educational module for nuclear waste managers and others concerned with nuclear energy sustainability. *Module 5B Radiation Risk Evaluation and Environmental Assessment Laboratory*, including a) risk assessment and uncertainties, b) environmental fate and transport, c) radioecology and ecological risks, d) environmental assessments and e) remediation and long-term stewardship. This module, a companion laboratory for Module 5A (a lecture course being developed with NRC 2007 funding), will include eight laboratories captured on CD, with a workbook of problem sets and assessments, supplemented with solutions to the problems, and references. Each laboratory would have a 15-minute introduction that outlines the objectives and problems for the laboratory. This module, along with 5A (the lecture module), can stand alone, and can be used by a range of educators, managers, scientists, and public policy makers to understand the environmental aspects and risk evaluation foundations of nuclear waste management. Together, these two modules will provide the first in-depth course that provides theory, information, background, and experience conducting evaluations and assessments. This module would be part of a series of modules, coordinated by the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) that could be used to form advanced courses in nuclear environmental management or provide supplemental professional training. The main targeted audience is graduate students and advanced undergraduates in traditional engineering and science disciplines intending to pursue careers related to environmental aspects of nuclear materials and systems.